Be An Inventor

by Barbara Taylor



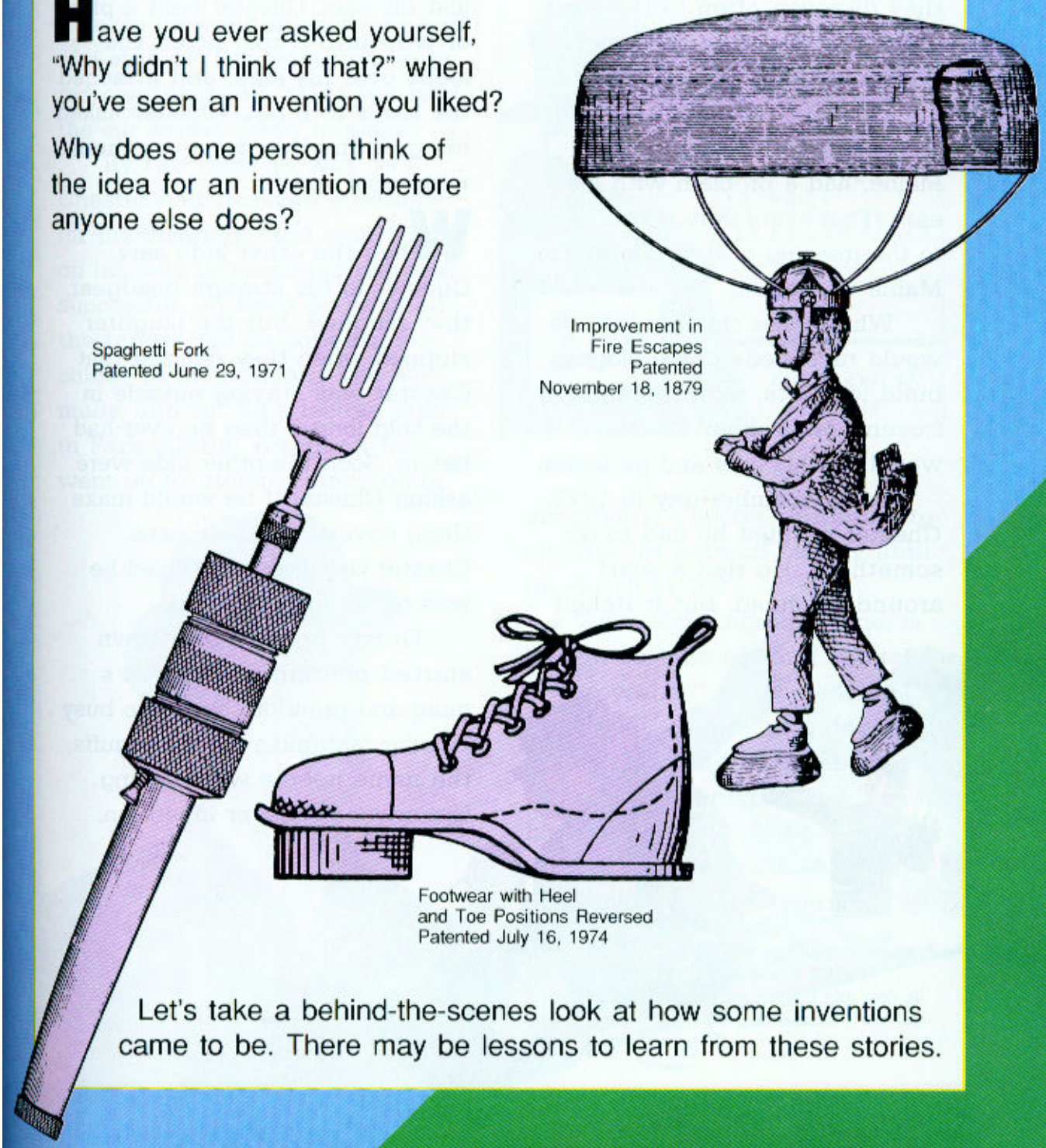
★Where do inventions come from?★

★How does an inventor transform an idea into reality?★

A Behind-the-Scenes Look at Some Inventions

Have you ever asked yourself, "Why didn't I think of that?" when you've seen an invention you liked?

Why does one person think of the idea for an invention before anyone else does?



Spaghetti Fork
Patented June 29, 1971

Improvement in
Fire Escapes
Patented
November 18, 1879

Footwear with Heel
and Toe Positions Reversed
Patented July 16, 1974

Let's take a behind-the-scenes look at how some inventions came to be. There may be lessons to learn from these stories.

Something to Keep the Ears Warm

Some inventors invent things that they themselves need. Then they discover, often to their surprise, that other people need their invention, too.

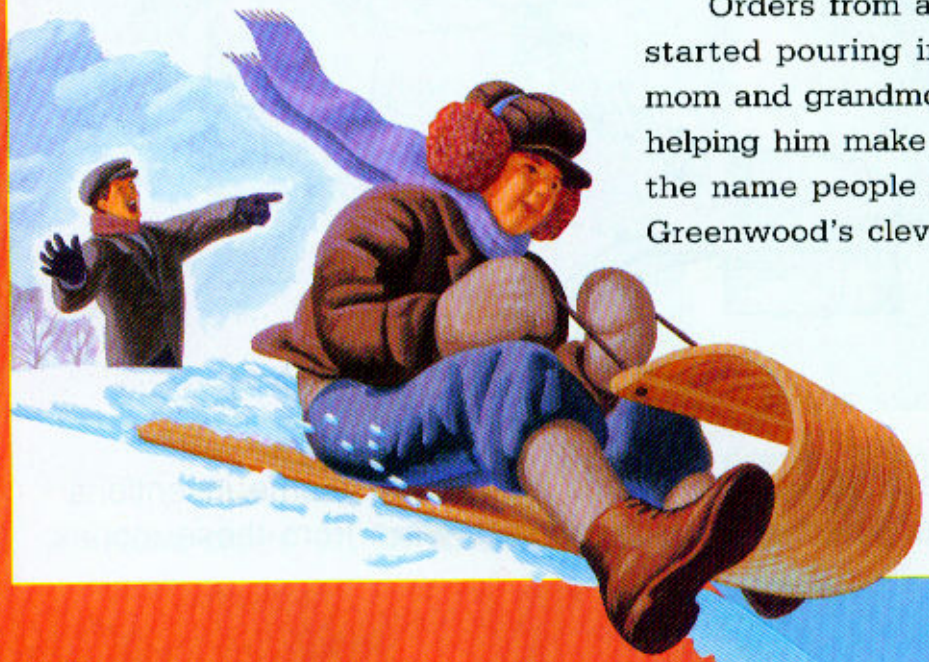
Fifteen-year-old Chester Greenwood of Farmington, Maine, had a problem with his ears. They were very sensitive to the freezing cold of the long Maine winters.

While other children his age would race sleds down slopes, build ice forts, and skate on frozen ponds, poor Chester would rub his ears and go home.

One December day in 1873, Chester decided he had to do something. He tied a scarf around his head, but it itched and would not stay in place. Then he hit upon the idea of covering just his ears. Chester bent a piece of wire into loops, fitted the loops over his ears, and attached the loops to a hat. Chester asked his grandmother to cover them with wool and fur.

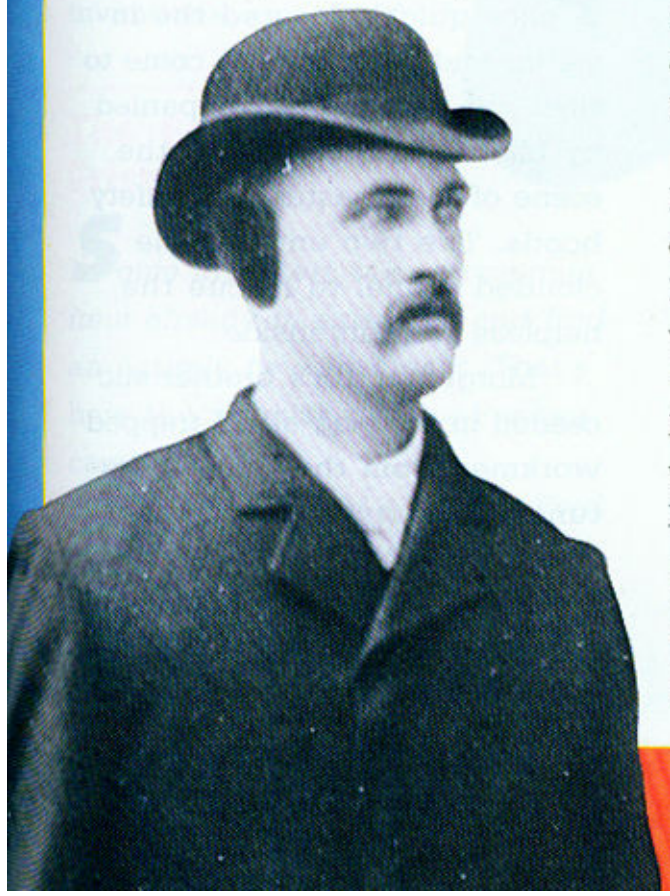
When the other kids saw Chester in his strange headgear, they laughed. But the laughter stopped when they realized that Chester was staying outside in the cold longer than he ever had before. Soon the other kids were asking Chester if he would make them covers for their ears. Chester Greenwood realized he was on to something big.

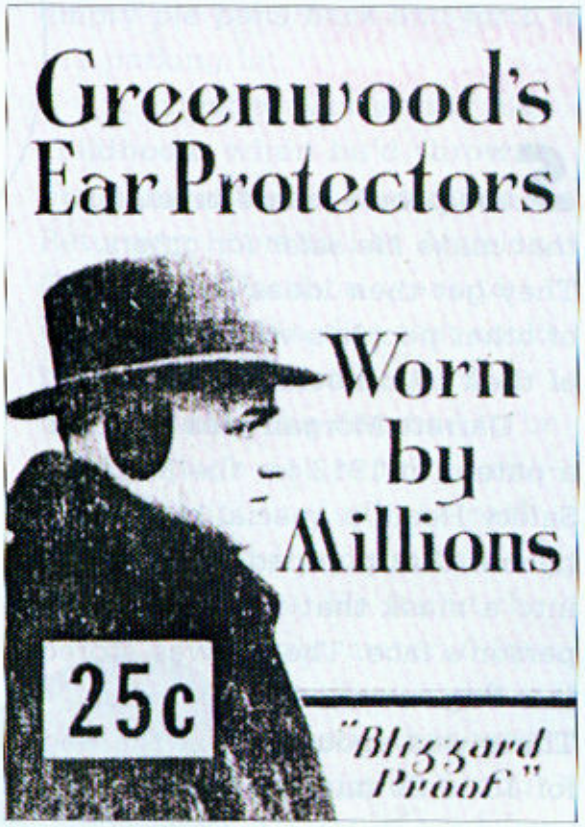
Orders from all over town started pouring in. Chester's mom and grandmother were busy helping him make more earmuffs, the name people were calling Greenwood's clever invention.



As word of Chester's earmuffs spread throughout New England, the inventor found ways to improve his invention. Instead of attaching the ear covers to a hat, Chester fastened them to the end of a strip of flat metal that he fitted over his head. The band held the ear covers firmly in place.

By the time he was 19, Chester had received a patent for his invention and was well on his way to becoming rich and successful. To keep up with all the orders, he designed machines to manufacture the earmuffs, and set up a factory right in Farmington. Although he went on to produce many other inventions, Chester continued to operate his earmuff factory until his death in 1937.

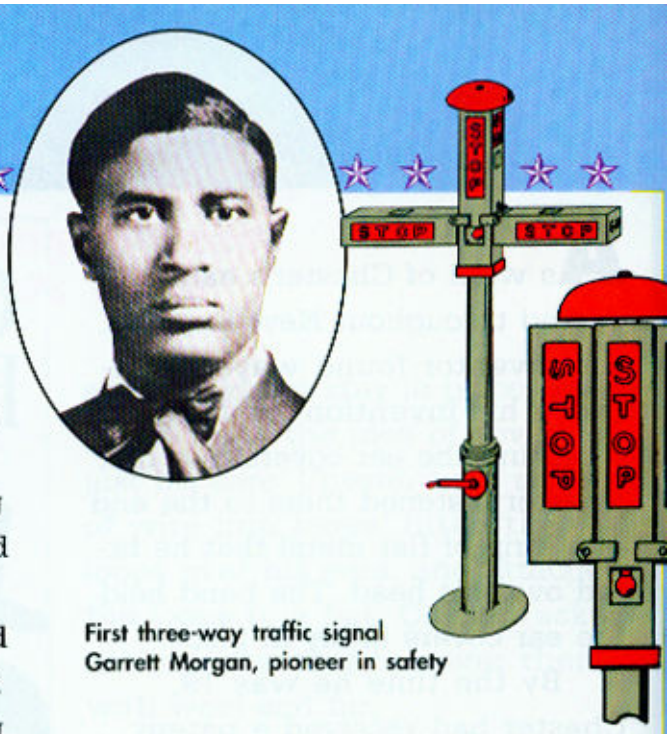




Today Farmington, Maine, is known as "the earmuff capital of the world." Every year on December 21, the first day of winter, Farmington celebrates "Chester Greenwood Day" to honor a clever boy who found a way to keep his ears—and millions of other ears—warm.

These early ads show the inventor of earmuffs proudly promoting his product. Chester Greenwood's imagination served him well all of his life. He is credited with more than 100 other inventions.

Hero of the Safety Hood



First three-way traffic signal
Garrett Morgan, pioneer in safety

Some people create inventions that make life safer for others. They get their ideas by thinking of other people's welfare instead of their own needs or comforts.

Garrett Morgan was granted a patent in 1912 for the Morgan Safety Hood, a special breathing helmet that pumped air directly into a mask that fitted over a person's face. The air was stored in a bag attached to the mask. There was enough air in the bag for 15 to 20 minutes of breathing—enough time for a firefighter to enter a smoke-filled burning building and rescue people inside.

Morgan was awarded the grand prize at the Industrial Exposition of Safety in New York in 1914, but it wasn't until an unexpected disaster in 1916 that Morgan and his invention became famous.

One night a tunnel collapsed 250 feet below the surface of Lake Erie in Morgan's hometown of Cleveland, Ohio. Workers from the Cleveland Waterworks were overcome by deadly gas fumes and trapped in the tunnel. Poisonous gas drove back firefighters who tried to reach the trapped men. But someone at the scene of the disaster remembered seeing Morgan give a demonstration of his safety hood some weeks before.

Police quickly located the inventor and asked him to come to their aid. Morgan, accompanied by his brother, arrived at the scene of the disaster with safety hoods. The two entered the clouded tunnel to rescue the helpless workers inside.

Morgan and his brother succeeded in carrying all 32 trapped workmen from the tunnel. Fortunately, many were still alive and the inventor was proclaimed a hero. As news spread of the daring rescue, his safety hood became a great success. Soon it

was standard equipment in fire departments across the nation.

When the United States entered World War I, Morgan adapted his safety hood into a gas mask that was worn by American soldiers fighting in Europe. The masks protected them from deadly chlorine fumes on the battlefield.

Garrett Morgan continued to invent, keeping other people's welfare in mind. He designed the first three-way traffic signal, making roadways safer for millions of motorists. Before he died in 1963 at the age of 86, Garrett Morgan had lived to see the United States a safer country, thanks to his inventions.

The Fabulous Frisbee

Some inventors take a common item already in existence and find an entirely new use for it. That's how the popular toy the Frisbee came to be.

One day in 1948, Walter Fred Morrison happened to be driving past the Frisbie Pie Company in Bridgeport, Connecticut, when he saw two truck drivers tossing empty pie pans back and forth in the parking lot.

It reminded Morrison of his childhood, when he'd thrown pie pans with his playmates. Returning home to Los Angeles, California, Morrison went to work designing a disc that could be thrown back and forth like the pie pans. The disc had to be light enough not to hurt someone who got in its flight path and still heavy enough to fly a good distance. He found the right material for his toy—a soft plastic that was bouncy but tough. He called his invention "Morrison's Flyin' Saucer" and took two cartons of his toys to a nearby county fair to sell.



Morrison thought of a gimmick to make people want to buy his flying saucers. He told the crowds at the fair that there was an "invisible wire" stretched between him and a friend. When Morrison threw the saucer, he claimed it flew along the wire directly to his friend's waiting hand. Morrison charged one cent per foot for the

invisible wire and threw in a "free" Flyin' Saucer with every 100 feet of wire a customer bought. The gimmick worked and soon Morrison had sold out his supply of saucers and invisible wire.

But Morrison still wasn't satisfied. He improved the design and gave the toy a new name—the Pluto Platter. In 1957, the Wham-O Toy Company of San Gabriel, California, saw the Pluto Platter, liked it, and bought it from Morrison.

Sales of Pluto Platters were steady among beachgoers who loved playing catch with them, but were slow among the general public. Then one day, Wham-O owner Rich Knerr saw some college students throwing the Platters at Harvard University in Cambridge, Massachusetts. The students told him how they used to throw pie pans from the Frisbie Pie Company. Knerr remembered Morrison's story about the same pie company and decided that a change of name would make the toy more popular. The Pluto Platter became the Frisbee (an unintentional misspelling) and the rest is history.

The Frisbee remains popular with people of all ages and athletic abilities. And it all started with an empty pie pan and an inventor with imagination.



Introducing *Weekly Reader's* Young Inventors

Weekly Reader, *the classroom newspaper, has recently sponsored national invention contests. More than 300,000 students entered the contests. Here are some of the contestants and their ideas—dramatic evidence that young people can think up amazing and useful inventions.*

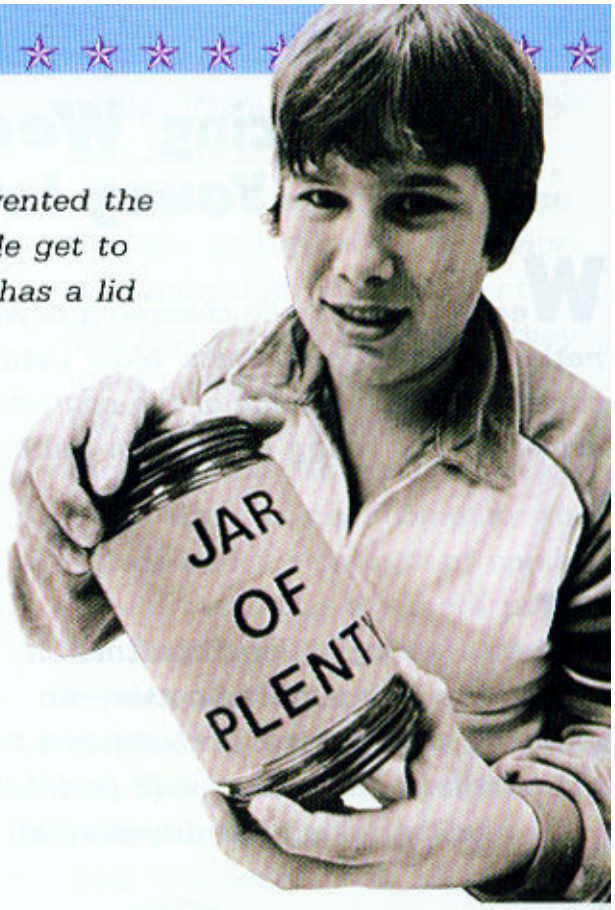
Katie Harding, a kindergartner, invented the **Mudpuddle-Spotter**—*an umbrella with a flashlight attached to the handle. It helps her avoid puddles while walking along her driveway after dark.*





First-grader Suzie Amling (left) won a grand prize for her **Line Leader and Keeper.** *Suzie's invention helps her teacher keep students in line as they walk along a busy street to the library. Suzie designed a rope with handles for each child. If a child lets go of a handle, a box at the teacher's end of the rope beeps a warning.*

Jim Wollin, an eighth-grader, invented the clever **Jar of Plenty** *to help people get to the bottom of food jars. Jim's jar has a lid at both ends, so reaching all the food in the jar is easy.*



Seventh-grader Clint Vaught won a grand prize for his **Logg Hogg Lifting Arm.** *The invention helps Clint split heavy logs when his dad's not around. It lifts the logs onto a log splitter that cuts them into suitable sizes for the Vaughts' stove.*





Kim Mehuron, a third-grader, invented the **Jim Dandy Unlosable Toothpaste Cap** *to prevent the cap from going down the drain. The cap is permanently attached to the tube of toothpaste with a rubber band.*

Fifth-grader Chris Robben's baby brother chewed on the germ-ridden handles of shopping carts at the supermarket. So Chris cut a plastic shower-rod cover that fits over the shopping cart handle. He calls it the **Germ Buster.** *Now his brother can chew to his heart's content and not get sick.*



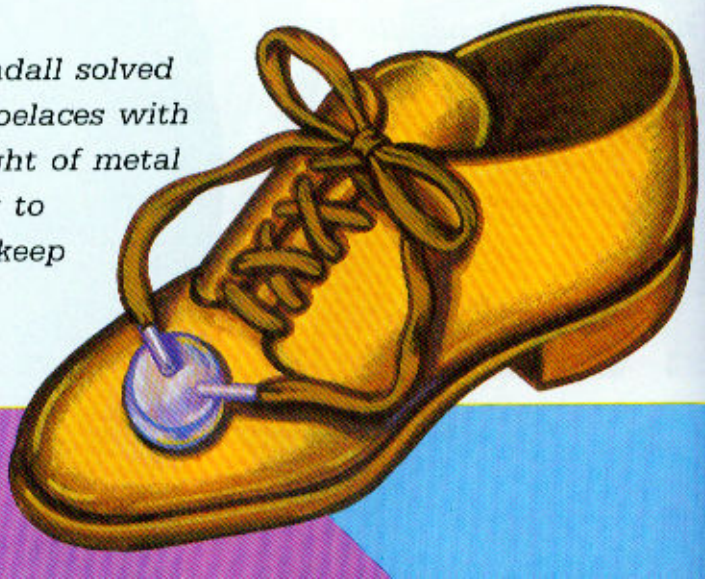
Second-grader Ryan Johnson won a prize for his **Keep-Warm Bird Feeder.** Ryan's mom was cold when she went outside to feed the birds each morning, so Ryan came up with a way to do the job without leaving the house. He cut a small door in the wall of his home. The door opens into the outside bird feeder.

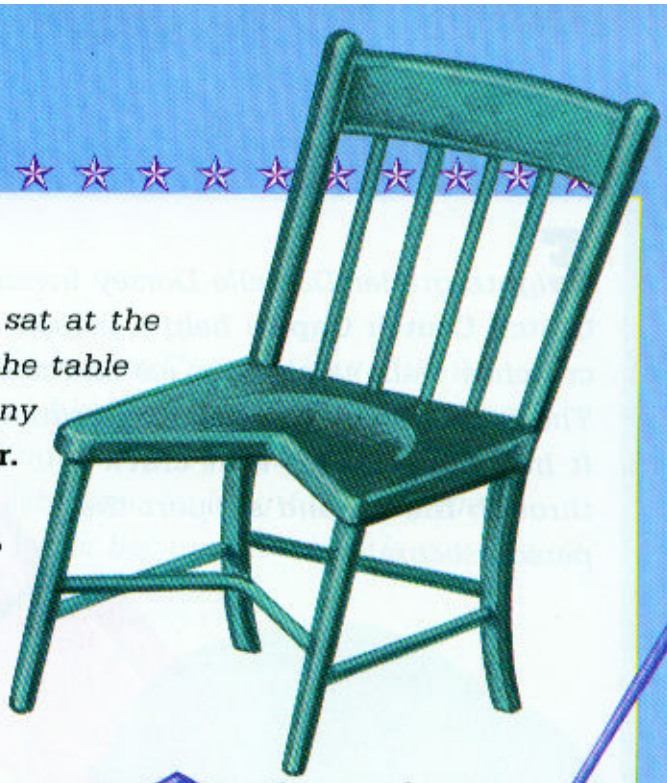




Fourth-grader Jennifer Acosta came up with a **Pop Top Mouthpiece.** Jennifer's reusable mouthpiece snaps into the slot where the top was pulled off a not-so-clean can and allows the user to drink without fear of germs.

Kindergartner Daniel Randall solved the problem of dangling shoelaces with his **Shoe Magnet.** He thought of metal tips for shoelaces that cling to magnets on the shoes and keep the laces out of the way.





Jennifer Horowitz, a fifth-grader, sat at the corner of her dinner table where the table leg always got in her way. So Jenny invented the **Special Corner Chair.** *It has a groove cut into the seat so that Jenny can pull right up to the table leg and straddle it.*

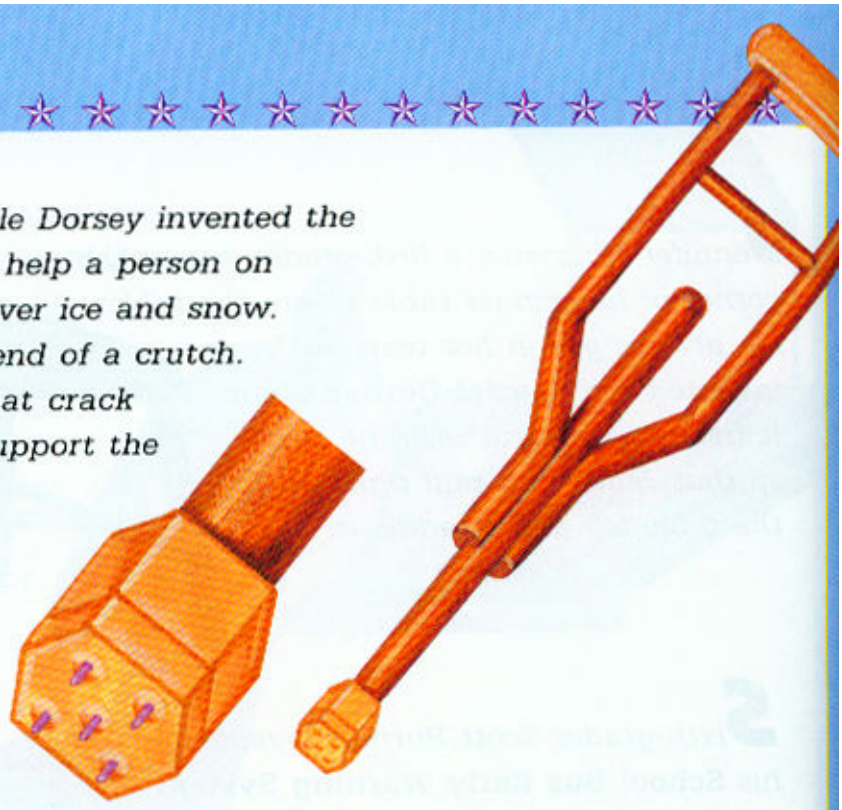
Sixth-grader Scott Burnett invented his **School Bus Early Warning System** *so he can wait for the school bus inside his home when the weather is bad. Scott's invention picks up a signal from the bus on an FM radio while he sits safe and dry inside.*





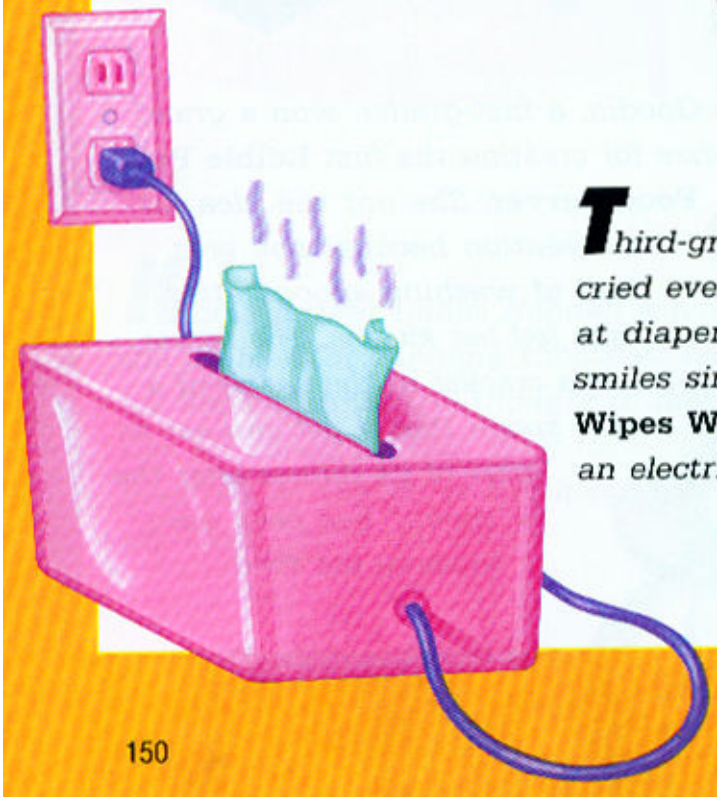
Suzanna Goodin, a first-grader, won a grand prize for creating the first **Edible Pet Food Server.** *She got the idea for the invention because she was tired of washing spoons after she fed her kittens. The server is a cracker in the shape of a spoon that a pet can eat as part of its dinner after the "spoon" has been used to serve pet food.*

Eighth-grader Danielle Dorsey invented the **Clutch Crutch Cap** *to help a person on crutches walk safely over ice and snow. The cap fits over the end of a crutch. It has sharp spikes that crack through the ice and support the person securely.*

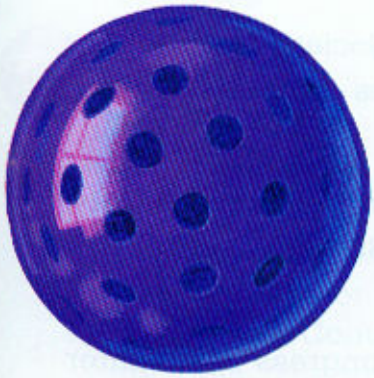


Mark Mueller was tired of soggy cereal. So the fourth-grader invented the **Cereal Plate**—*a bowl with an angled bottom that keeps the cereal and the milk separate until they are mixed together.*

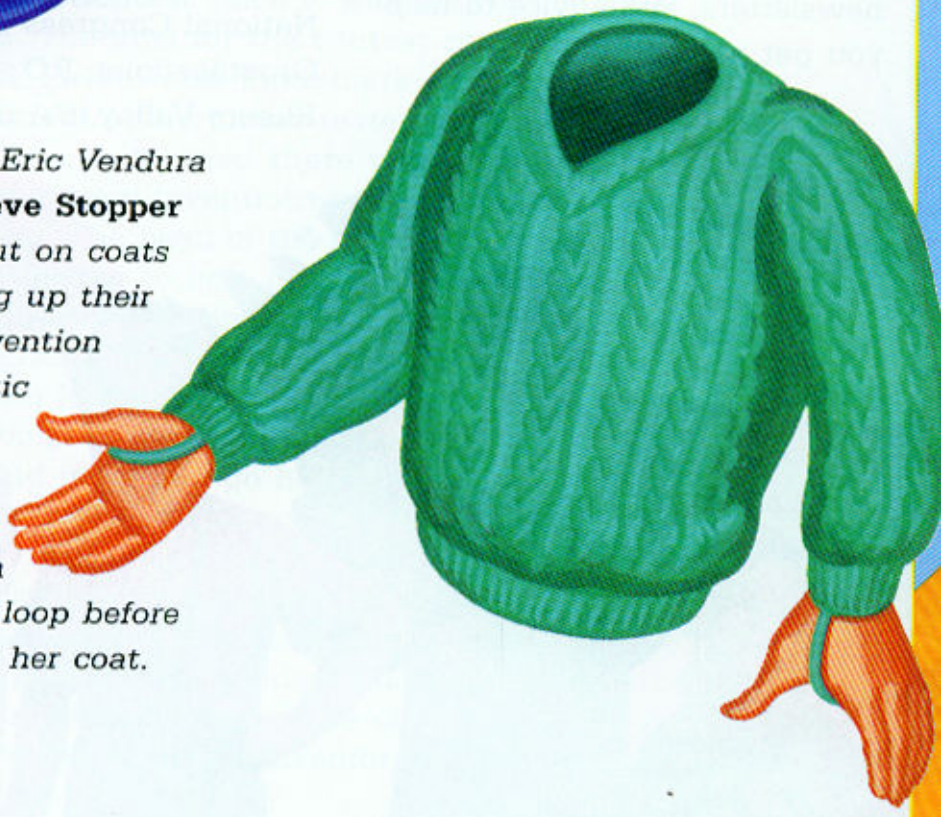




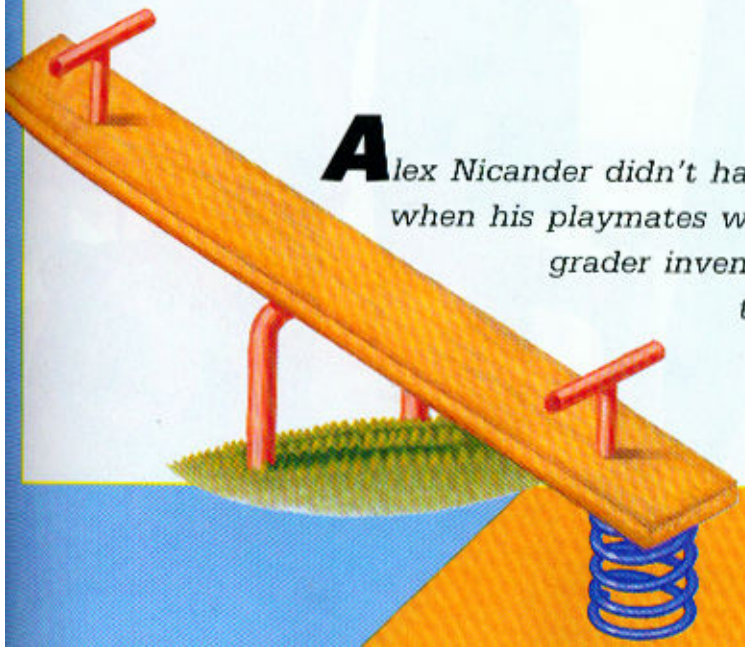
Third-grader April Baque's baby brother cried every time his mom used cold wipes at diaper-changing time. Now he's all smiles since April invented the **Baby Wipes Warmer**—*a box that plugs into an electrical outlet to heat the wipes.*



Third-grader Charlie Gurganus invented his **Bowling Ball** *to speed up a bowling game. Bowlers don't have to waste time looking for the finger holes because the ball is covered with them.*



Second-grader Eric Vendura invented his **Sleeve Stopper** *to help people put on coats without bunching up their sleeves. Eric's invention is a loop of elastic that is attached to each shirt or sweater sleeve. A person hooks a thumb into each loop before putting on his or her coat.*



Alex Nicander didn't have much use for his seesaw when his playmates weren't around. So the third-grader invented the **Seesaw Spring** *that fits under the empty seat. Now Alex can seesaw all by himself.*

Epilogue

Do you have an idea for an invention? There are inventors' groups that offer seminars, newsletters, and advice to help you get started.

American Society of Inventors, 23 Palisades Avenue, Absecon, NJ 08207

Midwestern Inventors Society, P.O. Box 335, St. Cloud, MN 56301

National Congress of Inventor Organizations, P.O. Box 158, Rheem Valley, CA 94570



MEET
BARBARA TAYLOR

As an editor for *Weekly Reader* magazine, Barbara Taylor has been involved in the Young Inventor's Contest since it was first announced in 1985. The idea for the contest came from the U.S. Patent and Trademark Office, the government agency that reviews all new inventions. It seemed there were fewer and fewer new inventions in the country each year. The head of the patent office asked *Weekly Reader* to help get young Americans interested in inventing. This seemed like an excellent idea to *Weekly Reader,* which had been looking for a way to help students build thinking skills. "Thinking skills and inventing go hand in hand," said Taylor, and so the contest was born.

Taylor has been amazed at some of the weird, wacky, and just plain creative invention ideas students have sent. She has collected some of her favorites in *Be An Inventor.*

